

ABSTRACT

INTEGRATED BASEMENT VENTILATION APPARATUS

5 The present invention relates to an integrated basement
ventilation apparatus and, more particularly, to an
apparatus which is capable of improving a basement
ventilation apparatus and thereby performing thermally-
insulated cooling using latent heat when air is supplied,
10 and forcibly closing a damper on fire, the damper being
closed or opened by itself as air is exhausted, and
generally and automatically controlling a basement
structure according to local air conditions. The integrated
basement ventilation apparatus comprises: an air supply fan
15 (100) installed in an air supply inlet of each floor along
an air supply shaft (10) of a basement structure (1); an
air exhaust fan (200) installed in an air exhaust outlet in
each floor toward an air exhaust shaft (20) of the basement
structure (1); a plurality of connecting fans (300),
20 supported by a ceiling of each floor of the basement
structure (1), for forming a plurality of air flow paths
from the air supply fan (100) to the air exhaust fan (200);
and a controller receiving electrical signals from sensors
(410) uniformly distributed in the ceiling of each floor of
25 the basement structure (1) for generally controlling the
air supply fan (100), the air exhaust fan (200) and the
plurality of connecting fans (300). Therefore, the present
invention can control an increase in temperature within a
basement structure at a low cost and improve fire safety by
30 preventing fire from spreading to other floors. In
particular, the present invention can remarkably improve
condition and maintenance of whole facilities by
significantly enhancing air quality of the basement
structure as well as being capable of extinguishing fire at
35 an early stage.

[Fig.2]